

### REMARKS

Applicant respectfully requests further examination and reconsideration in view of the instant response. Claims 1-24 remain pending in the case. Claims 1-24 are rejected. Claims 1, 12, 14, and 20 are amended herein. No new matter has been added.

Attached hereto is a marked-up version of the changes made to the claims by the current amendments. The attachment is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

### DRAWINGS

The drawings are objected as failing to comply with 37 CFR 1.84(p)(5) because Figure 4 does not include the reference sign "400" as mentioned in the description. Furthermore, the drawings are objected because Figure 4 includes the reference sign "100" that is not mentioned in the specification. Figure 4 has been revised in the accompanying Request to Approve Drawing Change, changing reference sign "100" to reference sign "400". No new matter is added as a result of the drawing amendment.

### 35 U.S.C. §102(b)

Claims 1-3, 6, 7, 12-16 and 20-22 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent 5,403,639 by Belsan et al, hereinafter referred to as the "Belsan" reference. Applicant has reviewed the

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cited reference and respectfully submit that the embodiments of the present invention as recited in Claims 1-3, 6, 7, 12-16 and 20-22 are not anticipated by Belsan in view of the following rationale.

Applicant respectfully directs the Examiner to independent Claim 1 that recites that an embodiment of the present invention is directed to (emphasis added):

A method of archiving a database, comprising the steps of:  
storing a plurality of archive logs comprising a plurality of transactions on a host device;  
transmitting a plurality of asynchronous streams to a receiving device, wherein the asynchronous streams correspond to a plurality of archive logs; and  
updating the receiving device with plurality of transactions.

Independent Claims 12, 14 and 20 recite similar limitations. Claims 2, 3, 6 and 7 that depend from independent Claim 1, Claim 13 that depends from independent Claim 12, Claims 15 and 16 that depend from independent Claim 14, and Claims 21 and 22 that depend from independent Claim 20 provide further recitations of features of the present invention.

Belsan and this embodiment of the claimed invention are very different. Applicant understands Belsan to teach a file server having snapshot application data groups. In particular, Belsan teaches a data storage subsystem that includes a snapshot copy capability that maps data records to a new location without having to physically relocate the data (col. 7, lines 53-

62). In general, Applicant understands Belsan to teach a file server that creates links to a data record in a new location without physically moving the data record to the new location.

In contrast, embodiments of the claimed invention are directed towards a method of archiving a database wherein a plurality of transactions are archived. In particular, archive logs comprising the plurality of transactions are transmitted in asynchronous streams to a backup database. Streaming the archive logs supports database archiving that provides constant updating of the backup database.

Applicant understands Belsan to teach a file server having snapshot application data groups wherein data records are mapped to a new location without being physically relocated. In contrast, the claimed embodiment of the present invention provides a database archive and method thereof that physically relocates transactions to a backup database that is distinct from the host device. The backup database is updated with the transactions. In particular, a plurality of archive logs comprising a plurality of transactions are transmitted over asynchronous streams to a receiving device.

Applicant respectfully asserts that Belsan in particular does not teach, disclose, or suggest a method or device wherein transactions are transmitted to a backup database, as claimed. In contrast, Belsan discloses a file server

where data record locations are mapped to a data storage subsystem, but are not actually relocated. In particular, Belsan does not teach, disclose or suggest an archive database where transactions are physically relocated to a backup database. Furthermore, Belsan does not teach, disclose or suggest an archive database that is updated with received transactions.

Applicant respectfully asserts that nowhere does Belsan teach, disclose or suggest the present invention as recited in independent Claims 1, 12, 14 and 20, and that this claimed subject matter is thus in a condition for allowance. Therefore, Applicant respectfully submits that Belsan also does not teach or suggest the additional claimed features of the present invention as recited in Claims 2, 3, 6 and 7 dependant on allowable base Claim 1, Claim 13 dependant on allowable base Claim 12, Claims 15 and 16 dependant on allowable base Claim 14, and Claims 21 and 22 dependant on allowable base Claim 20. Therefore, Applicant respectfully submits that Claims 2, 3, 6, 7, 13, 15, 16, 21 and 22 overcome the rejection under 35 U.S.C. § 102(b), and are in a condition for allowance as being dependent on allowable base claims.

35 U.S.C. §103(a)

Claims 4, 8-10, 17-19, 23 and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Belsan in view of United States Patent RE37,857 by Browne, hereinafter referred to as the "Browne" reference. Applicants have reviewed the cited reference and respectfully submit that the present invention

as recited in Claims 4, 8-10, 17-19, 23 and 24 is not anticipated nor rendered obvious by Belsan in view of Browne.

Applicants respectfully direct the Examiner to independent Claim 8 that recites that an embodiment of the present invention is directed to (emphasis added):

A method of performing automatic recoveries on an archived database, comprising the steps of:  
    comparing files residing on a host device to files residing on a backup device;  
    determining whether there are any missing files by checking for files which exist on the host device and which do not exist on the backup device;  
    recopying files from the host device over to the backup device which are missing;  
    determining whether there are any corrupted files by checking for files which have different size on the host device as compared to corresponding file residing on the backup device;  
    recopying files from the host device to the backup device which have become corrupted, wherein the automatic recovery process is run by a program without human intervention.

Independent Claims 17 and 23 recite similar limitations. Claims 9 and 10 that depend from independent Claim 8, Claims 18 and 19 that depend from independent Claim 17, and Claim 24 that depend from independent Claim 23 provide further recitations of the features of the present invention.

The combination of Belsan and Browne does not teach a device or method for automatic recoveries on an archived database as claimed. As described above, Belsan and the claimed invention are very different. Applicant understands Belsan to teach a file server that creates links to a data record in a  
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new location without physically moving the data record to the new location. In contrast, embodiments of the claimed invention are directed towards automatic recovery on an archived database. In particular, files are recopied from a host device to a backup device.

Applicant respectfully asserts that embodiments of the present invention, as claimed, are directed towards automatic recovery on an archived database by recopying files from a host device to a backup device. In particular, Applicant asserts that the files are physically copied into a new location.

Applicant respectfully asserts that Belsan in particular does not teach, disclose, or suggest a method or device wherein files are actually copied to a backup database, as claimed. In contrast, Belsan discloses a file server where data record locations are mapped to a data storage subsystem, but are not actually relocated. In particular, Belsan does not teach, disclose or suggest automatic recovery in an archive database where files are physically copied to a backup database. On the contrary, by disclosing a file server where data record locations are mapped to a new location, Belsan teaches away from providing an archive database where files are physically copied to a backup database.

Moreover, the combination of Belsan and Browne fails to teach or suggest this claim limitation because Browne does not overcome the shortcomings of Belsan. Browne, alone or in combination with Belsan, does

not show or suggest automatic recovery in an archive database where files are physically copied to a backup database.

Applicant understands Browne to teach a data processing system for a communications network. Applicant respectfully asserts that Browne does not teach a automatic recovery in an archive database where files are physically copied to a backup database, as claimed.

Applicants respectfully assert that nowhere does the combination of Belsan and Browne teach, disclose or suggest the present invention as recited in independent Claims 8, 17 and 23, and that these claims are thus in condition for allowance. Therefore, Applicant respectfully submits the combination of Belsan and Browne also does not teach or suggest the additional claimed features of the present invention as recited in Claims 9 and 10 dependant on allowable base Claim 8, Claims 18 and 19 dependant on allowable base Claim 17, and Claim 24 dependant on allowable base Claim 23. Furthermore, Applicant respectfully submits the combination of Belsan and Browne also does not teach or suggest the additional claimed features of the present invention as recited in Claim 4 dependant on allowable base Claim 1. Applicants respectfully submit that Claims 4, 9, 10, 18 and 24 overcome the rejection under 35 U.S.C. § 103(a) as these claims are dependent on allowable base claims.

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Belsan in view of United States Patent 5,812,398 by Nielson, hereinafter referred to as the "Nielson" reference. Claim 5 is dependent on allowable base Claim 1. Applicants respectfully submit that Claim 5 overcomes the cited art of record and is patentable in view of 35 U.S.C. § 103(a).

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Belsan in view of Browne and further in view of Nielson. Claim 11 is dependent on allowable base Claim 8. Applicants respectfully submit that Claim 11 overcomes the cited art of record and is patentable in view of 35 U.S.C. § 103(a).



### CONCLUSION

Based on the arguments presented above, Applicant respectfully asserts that Claims 1-24 overcome the rejections of record and, therefore, Applicant respectfully solicits allowance of these Claims.

The Examiner is invited to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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Dated: 3 Feb, 2003



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claim 1 has been amended as follows:

1. (Amended) A method of archiving a database, comprising the steps of:  
  
storing a plurality of archive logs comprising a plurality of transactions on a host device;  
  
transmitting a plurality of asynchronous streams to a receiving device, wherein the asynchronous streams correspond to a plurality of archive logs;  
  
and  
  
updating the receiving device with plurality of transactions.

Claim 12 has been amended as follows:

12. (Amended) An archival system, comprising:  
  
a backup database for storing a plurality of archive logs which represent data stored on an operational database;  
  
a memory for storing instructions on how data is to be transferred from the operational database to the backup database, wherein the instructions include commands which cause the operational database to stream a plurality of archive logs asynchronously to be copied over to the backup database such that the backup database is updated with the data.

Claim 14 has been amended as follows:

14. (Amended) A computer-readable medium having stored thereon instructions for transferring data from a host device to a destination device for archival of data, comprising the steps of:

storing a plurality of archive logs comprising a plurality of transactions on the host device;

transmitting a plurality of asynchronous streams to the destination device, wherein the asynchronous streams correspond to a plurality of archive logs; and

updating the destination device with plurality of transactions.

Claim 20 has been amended as follows:

20. (Amended) An apparatus for archiving a database, comprising:  
means for storing a plurality of archive logs comprising a plurality of transactions on a host device;

means for transmitting a plurality of asynchronous streams to a receiving device, wherein the asynchronous streams correspond to a plurality of archive logs; and

means for updating the receiving device with plurality of transactions.